memo

To: Natelle Dietrich, PSC; Brenda Wilbers, DNR
From: Tom Franks
Date: January 5, 2011
Copy: Fred Coito & Kristina Kelly, KEMA; Gwen Mizell, GSM Development
Subject: High Level Memo on Achievable Potential

This memorandum provides a high-level summary of the results of the preliminary achievable potential analysis based on the revised technical and economic potential analyses developed in response to Staff's December 21, 2010 questions.

Per the direction of the PSC we modeled two scenarios, defined as follows:

- One-year payback - In this scenario we assume customer incentives are provided such that all cost-effective measures have a payback period of one year. For measures that have payback periods of one year or less without incentives, no incentives are provided, but they may be supported through marketing, educational, and other program efforts.

- Three-year payback - In this scenario we assume customer incentives are provided such that all cost-effective measures have a payback period of three years. For measures that have payback periods of three years or less without incentives, no incentives are provided, but they may be supported through marketing, educational, and other program efforts.

In the tables below we show the potential for each scenario disaggregated by residential, commercial and industrial sectors. The draft report to follow will provide more detail at the end-use and measure level.

In reviewing these estimates we identified some areas of our analysis that we may consider refining in the process of producing the draft report. These are adjustments that were not possible under the tight timeline we had to produce initial achievable potential results. These are likely to include: (1) adjustments to our customer awareness module (including program budgets) in order to better align the assumptions of the 1-yr payback and 3-yr payback scenarios with the Ameren maximum achievable potential (MAP) and reasonable achievable potential (RAP) scenarios; (2) some adjustments to our program budgets, especially with regard to variances across scenarios; and (3) additional fine tuning of measure-specific penetration rates.

In our experience, it is not uncommon for achievable potential analysis to be developed over a period of months with several cycles of review and revision between KEMA and our client. . For this study, we have compressed our initial analysis into several weeks, and anticipate fine-tuning the results over the next few days prior to submission of the draft report. As part of this effort, we anticipate that we will need to make a few more adjustments to our analysis to meet the PSC's direction to develop achievable scenarios that are as consistent as possible with the MAP and RAP scenarios developed by Ameren.

Achievable Potential - Electric

	Electric One Year Payback	kWh		kW		Year 1 Budget	Average 10 Year Real Budget
		Net	Gross	Net	Gross		
Residential	Total	2,381,411,588	3,214,458,135	1,042,237	1,169,502	$68,328,192	$94,676,240
	% of sector base	6%	8%	11%	13%		
Commercial	Total	953,578,181	1,743,939,490	155,840	261,493	$41,706,046	$36,676,508
	% of sector base	3%	5%	3%	5%		
Industrial	Total	605,809,390	943,271,521	60,932	92,347	$20,132,014	$15,483,314
	% of sector base	3%	5%	3%	4%		
Total		3,940,799,160	5,901,669,146	1,259,010	1,523,342	$130,166,253	$146,836,062
	% of total base	4%	6%	7%	9%		

	Electric Three Year Payback	kWh		kW		Year 1 Budget	Average 10 Year Real Budget
		Net	Gross	Net	Gross		
Residential	Total	1,442,938,364	2,303,492,298	407,123	539,759	$27,311,384	$34,507,576
	% of sector base	3%	6%	4%	6%		
Commercial	Total	584,321,421	1,624,221,126	80,603	207,552	$12,676,539	$13,061,975
	% of sector base	2%	5%	1%	4%		
Industrial	Total	150,801,060	488,263,190	15,592	47,007	$4,279,943	$3,887,798
	% of sector base	1%	3%	1%	2%		
Total		2,178,060,844	4,415,976,614	503,318	794,319	$44,267,865	$51,457,348
	% of total base	2%	5%	3%	5%		

Snap Shot Comparison of Study Results

Sector	GWH 2020 Base Energy Use	Ten Year Technical Savings	Ten Year Economic Savings	Three Year Payback Gross Achievable Savings	One Year Payback Gross Achievable Savings
Residential Existing	41,430	17,579	11,667		
Residential New	104	372	372		
Subtotal	41,534	17,950	12,039	2,144	3,214
Savings % of Base		**43%**	**29%**	**5%**	**8%**
Commercial Existing	32,193	10,274	7,228		
Commercial New	243	1,283	1,283		
Subtotal	32,436	11,558	8,511	1,676	1,744
Savings % of Base		**36%**	**26%**	**5%**	**5%**
Industrial	18,586	3,174	2,658	488	943
Savings % of Base		**17%**	**14%**	**3%**	**5%**
Total	92,556	32,682	23,208	4,308	5,902
Savings % of Base		**35%**	**25%**	**5%**	**6%**

Snap Shot Comparison of Study Results

Sector	MW 2020 Base Demand	Ten Year Technical Savings	Ten Year Economic Savings	Three Year Payback Gross Achievable Savings	One Year Payback Gross Achievable Savings
Residential Existing	9,265	3,960	3,102		
Residential New	23	62	62		
Subtotal	9,288	4,022	3,164	485	1,170
Savings % of Base		**43%**	**34%**	**5%**	**13%**
Commercial Existing	5,496	1,674	971		
Commercial New	42	180	180		
Subtotal	5,538	1,853	1,151	214	261
Savings % of Base		**33%**	**21%**	**4%**	**5%**
Industrial	2,313	350	281	47	92
Savings % of Base		**15%**	**12%**	**2%**	**4%**
Total	17,139	6,225	4,596	745	1,523
Savings % of Base		**36%**	**27%**	**4%**	**9%**

Achievable Potential - Gas

	Gas One Year Payback	Therms		Year 1 Budget	Average 10 Year Real Budget
		Net	Gross		
Residential	**Total**	67,673,989	99,923,566	$16,794,689	$19,652,991
	% of sector load	6%	9%		
Commercial	**Total**	30,911,493	41,875,960	$6,763,456	$7,833,345
	% of sector load	4%	6%		
Industrial	**Total**	10,272,884	16,643,672	$1,594,953	$1,916,045
	% of sector load	2%	2%		
Total		108,858,366	158,443,198	$25,153,098	$29,402,381
	% of total load	4%	6%		

	Gas Three Year Payback	Therms		Year 1 Budget	Average 10 Year Real Budget
		Net	Gross		
Residential	**Total**	17,771,892	50,215,227	$1,676,716	$1,928,457
	% of sector load	2%	4%		
Commercial	**Total**	7,975,437	18,635,566	$2,022,176	$2,157,362
	% of sector load	1%	3%		
Industrial	**Total**	3,457,494	9,828,282	$627,845	$721,903
	% of sector load	1%	1%		
Total		29,204,822	78,679,075	$4,326,737	$4,807,722
	% of total load	1%	3%		

Snap Shot Comparison of Study Results

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Sector	**2020 Base Energy Use**	**Ten Year Technical Savings**	**Ten Year Economic Savings**	**Three Year Payback Net Achievable Savings**	**One Year Payback Net Achievable Savings**
Residential Existing	116,802,808	51,132,703	23,365,190		
Residential New	292,739	3,333,059	3,333,059		
Subtotal	117,095,547	54,465,762	26,698,248	5,021,523	9,992,357
Savings % of Base		**47%**	**23%**	**4%**	**9%**
Commercial Existing	69,090,102	24,861,821	17,725,504		
Commercial New	522,091	2,754,860	220,734		
Subtotal	69,612,193	27,616,681	17,946,238	1,863,557	4,187,596
Savings % of Base		**40%**	**26%**	**3%**	**6%**
Industrial	67,097,602	9,032,250	8,535,630	982,828	1,664,367
Savings % of Base		**13%**	**13%**	**1%**	**2%**
Total	253,805,342	91,114,692	53,180,116	7,867,907	15,844,320
Savings % of Base		**36%**	**21%**	**3%**	**6%**